was 6*6 kilogrammes per minute, whilst the steel production taken on the entire run of the charge must have been 73 kilogrammes per minute. Had a further small ore addition been made, the end of the "heat" would have been reached easily about 20 minutes earlier, and the production brought up to -80 kilogrammes per minute, and thus have been able to be increased 10 per cent.

Another very interesting example, in which the pig iron was first heated during 90 minutes in order to bring it up to a high temperature and to be able to observe the influence of the latter on the behaviour of the charge, is shown in Table Y.

Prom the oxygen diagram (Fig. 28) one sees at once that in the period of heating the pig iron without additions, a small sudden removal of reducing agents took place immediately on the introduction of the pig iron into the furnace, which can only be traced to some slag having been present from the previous charge, the oxide of which caused these changes. The greatest portion of the amount of oxygen which is given by the line o.a.b. must be allocated to this slag, by means of which Si, P and Mn were mainly attacked. After 80 minute?, however, the carbon began to reduce the manganese protoxide formed, thanks to the low-oxygen slag, whilst it could not get hold of the products of elimination of the silicon. The somewhat powerful oxidising action of the flame in the preheating period is set out by means of the line o.b.c.d., the assumed points of which were estimated by the known method. After being heated for 90 minutes, the bath received the first—-of course too small —addition of ore, to which then, but at proper intervals, generous additions followed, through which greed of oxygen of the charge was more than covered. One sees, therefore, also that the oxidising action of the flame in the interval between 90 and BOO minutes only exhibited the still very small amount of 0*3 per cent, so that the line which illustrates this runs almost parallel with the abscissa.

The first ore addition completely removed the silicon and phosphorus from this very hot bath indeed, in the interval between 90 and 115 minutes, whilst of the manganese, small amounts took a still further 15 minutes. Afterwards, the ore (possibly in consequence of the high temperature of the metal,